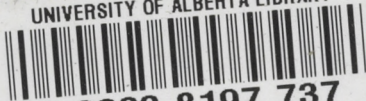


UNIVERSITY OF ALBERTA LIBRARY



0 0003 8197 737

R 26-1

# ANNUAL REPORT

OF THE ONE WEEK LOAN

GENERAL SCIENCES

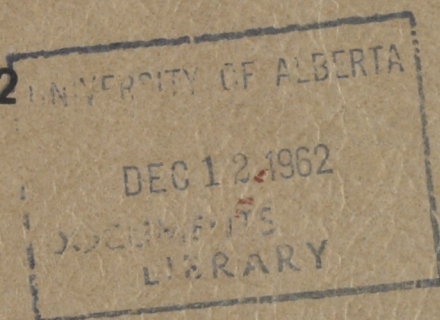
## EASTERN ROCKIES FOREST

## CONSERVATION BOARD

### FOR THE

### FISCAL YEAR

1961-62



SD  
414  
C2E116  
1961/62

CALGARY, ALBERTA

MARCH 31, 1962



EX LIBRIS  
UNIVERSITATIS  
ALBERTAENSIS





ANNUAL REPORT  
of the  
EASTERN ROCKIES FOREST CONSERVATION BOARD  
for the  
FISCAL YEAR  
1961-62

Calgary, Alberta

March 31, 1962



LIBRARY  
UNIVERSITY OF ALBERTA



EASTERN ROCKIES FOREST CONSERVATION BOARD

514 - 11 Ave. S.W.  
Calgary, Alberta  
October 5, 1962

The Honourable Hugh John Flemming  
Minister of Forestry  
Ottawa, Ontario

Sir:

I have the honour to submit herewith the Annual Report of the Eastern Rockies Forest Conservation Board for the fiscal period April 1, 1961 to March 31, 1962, pursuant to the provisions of the Eastern Rocky Mountain Forest Conservation Act of 1947. I am

Your obedient servant

J.R.H. Hall  
Chairman

2299457







EASTERN ROCKIES FOREST CONSERVATION BOARD

514 - 11 Ave. S.W.  
Calgary, Alberta  
October 5, 1962

The Honourable Norman Willmore  
Minister of Lands and Forests  
Edmonton, Alberta

Sir:

I have the honour to submit herewith the Annual Report of the Eastern Rockies Forest Conservation Board for the fiscal period April 1, 1961 to March 31, 1962, pursuant to the provisions of the Eastern Rocky Mountain Forest Conservation Act of 1947. I am

Your obedient servant

J.R.H. Hall  
Chairman





## TABLE OF CONTENTS

	Page
Principal Officers	1
Introduction and Legislation	2
Meetings of the Board	2
Legislation	2
Board Membership	2
Board Policy	2
Board Staff	3
Administrative Personnel	4
Forest Management	5
Forest Inventory Progress	5
Reforestation	6
Watershed Management	7
Protection	7
Restoration of Watershed Condition	8
Current Watershed Condition	9
Forest and Watershed Research	10
Forestry Research	10
Watershed Research	11
Range Management	14
Forest Protection	15
Forest Fire Protection	15
Forest Fires	15
Detection	16
Aircraft	16
Biological Protection	17
Utilization of Resources	18
Forest Production	18
Grazing	19
Natural Gas and Mineral Development	20





Coal Development	20
Recreation	21
General Travel	21
New Construction	23
Roads	23
Bridges	23
Airstrips	23
Buildings	23
Campshelters	23
Maintenance	24
Roads	24
Buildings	24
Financial	25
Accounting	25
Banking	25
Workmen's Compensation	25
Expenditure, Maintenance and Administration	26
Revenue	26
Road Tolls	27
• Estimates, Fiscal Year 1962-63	27
Appendices	
"A" Distribution of Alberta Forest Service Personnel	28
"B" Report on Forest Insect and Disease Conditions	29
"C" Report of the Provincial Auditor	32
Statement "A" Balance Sheet	33
"    "B" Maintenance	
Expenditure	34
"    "C" Proprietary Equity	35

\*\*\*\*\*



## EASTERN ROCKIES FOREST CONSERVATION BOARD

### Board Members

Chairman and Provincial Member	J.R.H. Hall
Provincial Member	A.T. Baker, B.A.
Federal Member	G. Tunstell, B. Sc. F.

\*\*\*\*\*

### Principal Officers

Chief Forester	W.R. Hanson
Secretary	J.M. Marshall

\*\*\*\*\*





## INTRODUCTION AND LEGISLATION

### MEETINGS OF THE BOARD

Five meetings of the Board were held in Calgary during the year under review.

Minutes of the meetings were recorded and copies submitted to the Minister of the Department of Forestry (Canada) and the Minister of the Department of Lands and Forests of the Province of Alberta.

### LEGISLATION

No amendments were enacted affecting the Agreement between the Government of Canada and the Government of the Province of Alberta during the year under review.

### BOARD MEMBERSHIP

There were no changes in the membership of the Board during the year.

### BOARD POLICY

As indicated in the Annual Report covering the fiscal year 1960-61 (pages 2-3) the functions of the Board are to set policy to be followed by the Alberta Forest Service in administering and managing the Conservation Area, plan programs of forest management, check results and arrange for watershed research.

To consolidate the various rulings and policy statements implemented by the Board since its inception, a "Policy Manual" is being compiled as a guide for Board staff, Alberta Forest Service personnel and other agencies concerned with the implementation of the Board's policy on the area under its jurisdiction.

The topics dealt with are:

- General Policy
- Watershed Management
- Timber Management
- Range Management
- Road Construction
- Recreational Policy





Programs of forest protection, utilization and development, carried out by the Alberta Forest Service on the Area, are to reflect the policies as outlined in the Manual.

Under the terms of reference as established by the Eastern Rocky Mountain Forest Conservation Act, the Board was charged with the responsibility of inaugurating policies for the protection of the forests in the Area from fire, insect disease and other damage. Also, the Board's primary objective was defined as water conservation. To accomplish its objectives, a multiple-use concept of land management is being followed.

The division of responsibility between the Board and the Alberta Forest Service is outlined in the Manual. Policy-setting and supervision of the broad programs is clearly defined as a Board responsibility, whereas the management and administration of the Area are the responsibility of the Alberta Forest Service.

In between these functions lies the planning of programs which falls to both the Board and the Alberta Forest Service with planning at Board level having to do with selecting programs to implement policy, enunciating principles and setting out broad skeleton outlines. Planning at the Alberta Forest Service level entails the filling in of details on the skeleton outlines and making them into working plans.

Objectives, principles, priorities, programs and controls are outlined for each of the resource uses.

BOARD STAFF      Board staff remained substantially the same as during the previous year, comprising:

Chief Forester  
Secretary  
Foresters (2)  
Draftsman  
Clerk-Stenographer

The foregoing staff is supplemented from time to time by engaging the services of such consultants as may be required on a fee basis, forestry students to assist with field studies during the summer and such additional stenographic staff as may be required during peak work and vacation periods.



ADMINISTRATIVE  
PERSONNEL

The permanent staff of the Department of Lands and Forests assigned to the administration and maintenance of the Rocky

Mountains Forest Reserve totalled 75 persons. In addition to the foregoing, there were 18 lookoutmen employed on a seasonal basis and 50 other persons engaged on a temporary basis on road work, stand-by fire duty, campground clean-up and other miscellaneous duties.

The administrative and field staff are employees of the Alberta Forest Service and are directly responsible to them.

A summary showing the distribution of the Forest Reserve staff is appended hereto. (Appendix "A")

\* \* \* \* \*





## FOREST MANAGEMENT

In attempting to implement the practice of sustained yield in the forests of the Rocky Mountains Forest Reserve the management units, as approved, are being organized to bring irregularities of stocking into balance over as short a period as is possible and establish a regular series of age classes for the next rotation.

As the maps, inventory data and management plans become available for each unit, a balance is being struck between actual cut and allowable cut. This is to be done in keeping with what is known to be good watershed management practices. All forest activities will be controlled through the directives given for the management unit.

### FOREST INVENTORY PROGRESS

Rocky Mountains Forest Reserve and adjacent forest area

	Area completed during 1961/62 sq. miles	Total Area completed to March 31/62 sq.miles	Area to be completed sq. miles
Photography	-	11,700	Completed
Base Mapping	-	12,485	"
Photo Inter- pretation	-	11,552	"
Transferring	-	11,552	"
Correcting Maps and Photos	3,332	11,552	"
Coding	3,008	10,984	568
Numbering	3,576	11,552	Completed
Site and Maturity Classification	2,767	11,552	"
Planimetering	4,060	11,552	"
Final Drafting	1,750	11,552	"

The total inventory area recorded in the last Annual Report was estimated at 11,700 square miles. The area has now been determined to be 11,552 square miles. This figure may be compared with an approximate area of 9,000 square miles for the area under the jurisdiction of the Board.





Compilation of stand volume tables for sub-alpine and boreal regions continued during the year and was almost completed. Stand volumes for types that were inadequately sampled in the field must still be determined. Sample statements were obtained from the Data Processing Centre of the Alberta Forest Service for management units in the Crowsnest Forest. However, these will require adjustment in order to provide accurate and useable results. Complete volume and area statements for each management unit in the Rocky Mountains Forest Reserve should be available within a year and will provide the basis for proper timber management.

**REFORESTATION** The moratorium on reforestation clauses in timber licenses was continued again this year. Alberta Forest Service appropriations, provided in lieu thereof, were used for the following work:

1. Approximately 21,600 seedlings were planted during the spring planting season.
2. A total of 150 acres were scarified and of this 110 acres were spot seeded.
3. Four hundred and sixty-three pounds of seed (Douglas fir, white spruce and lodgepole pine) were extracted and placed in cold storage.

A much augmented program has been drawn up for the 1962-63 fiscal year.

\*\*\*\*\*



## WATERSHED MANAGEMENT

Watershed management is taking a more important place in the land management of the Conservation Area and marked progress is noted in a sympathetic attitude toward, and appreciation of, the need for watershed protection and improvement. The Alberta Forest Service, which is responsible for administration and management, now give watershed conservation an important role in management and have made inspections to ensure compliance with watershed regulations. The Board has supervised watershed protection work done by others and carried out one pilot plant study to restore seismic lines to a satisfactory watershed condition.

Protection against damage through the utilization or exploitation of the resources of the area along with some restoration of watershed condition constituted the activities for the year.

**PROTECTION** Protection continued to be the most important phase of watershed management. Protection against fire, insects and disease, which play a part in watershed protection are dealt with elsewhere in this report.

Measures to prevent rapid overland flow, erosion and sedimentation of streams were applied to lumbering, coal mining and hauling oil well drilling, gas pipe line construction, grazing and roads. Changes in the conditions of sale of timber berths were recommended by the Board and adopted. Checking and supervision were increased and resulted in more careful work by the operators.

Protection forests above the 6,500 foot contour were reserved on all new berths in the southern part of the area to delay snow-melt in the heavy snowpack zone.

The acreage cut in any year was restricted in all berths in the sub-alpine zone. Some older berths which did not have this restrictive clause in the license were amended to include it.

Desirable watershed conditions are destroyed by roads, seismic lines and pipe lines.

Where soil has been disturbed and the vegetative cover destroyed, water, instead of quickly infiltrating the soil mantle and filtering slowly to streams or aquifers, runs overland to reach the streams quickly and laden with sediment. The work of watershed restoration should be





to create soil stability and improve infiltration and percolation rates at least equal to those in the native state. This is the objective which the Board attempts to achieve on seismic lines and pipe lines.

Many miles of new roads have been built in the Area by the Alberta Forest Service, oil and lumber companies and the Department of Highways. All roads have a deleterious effect upon watershed conditions. The degree of damage can be kept down by careful location, proper design and maintenance aimed at watershed conservation. A concerted effort was applied to minimizing damage by road construction and maintenance and progress was made. The Alberta Forest Service has committed itself to a program of higher watershed standards in road building and, by careful checking by the field staff, logging companies, and especially oil companies, have done a better job on their roads. Road maintenance still leaves much to be desired watershedwise.

Blairmore Collieries, operating a mine on the bank of Vicary Creek, obtained permission to build a reservoir and begin hydraulic mining on an experimental basis. The area was examined by the Alberta Forest Service and the Eastern Rockies Forest Conservation Board, and requirements were drawn up to protect the stream from pollution and sedimentation including the building of settling basins. The experiment is still under way and is being observed.

#### RESTORATION OF WATERSHED CONDITION

Over 4,000 miles of lines cut with bulldozers up and down mountain sides for purposes of seismic exploration for oil and gas exist in the Conservation Area with new ones still being constructed.

Some of these are becoming erosion channels and some are diverting streams. A pilot project was initiated by Board staff to demonstrate practicable methods of restoring acceptable watershed conditions. Cross-ditches, water outlets on natural channels and seeding to grass were employed.

An appropriation of \$12,000 was provided by the Province for this restoration work to be done by the Alberta Forest Service in the summer of 1962.

Negotiations with the builders of a pipe line from Savanna Creek to near Coleman resulted in cross-ditching on steep slopes to divert runoff into forest cover and natural drainage and in backsloping cuts made in the construction of the line.



CURRENT  
WATERSHED  
CONDITION

Although there is improvement in watershed conditions on range land and timber berths, it is probable that, considering the area as a whole, conditions have deteriorated on account

of the great amount of disturbance by increased road mileage, oil wells, seismic lines and pipe lines.

\*\*\*\*\*





## FOREST AND WATERSHED RESEARCH

### FORESTRY RESEARCH

The program of the Forest Research Branch, Department of Forestry, in the Conservation Area, consists of studies in the following fields; silvics, plant ecology, site classification, natural regeneration, forest measurements and watershed research. The forest management research is centred mainly in the spruce-fir types in the Crowsnest Forest district. Ecological studies, site classification and watershed research are not limited to a specific area.

Further work was done in 1961 to provide more specific information on the effects of summer climate on spruce and fir regeneration in the sub-alpine forest in the Crowsnest Pass region. Tentative conclusions from one controlled and instrumental experiment indicate that soil moisture retention in the seedbeds was the important factor affecting seedling survival. Excessive heat and drought caused acute seedling mortality in the open. Under shade, mortality was less severe and seedlings died mostly from drought alone. Seedlings in humus and decayed wood in the shade suffered least mortality; material growing in sandy loam was more subject to mortality both in the shade and in the open than all other seedbed types.

The first phase of a series of tests to evaluate pre-logging scarification for regeneration of mature spruce-fir stands was begun in co-operation with the Forest Management Division, Alberta Department of Lands and Forests. Both uncut, pre-scarified forest and scarified logged-over land were placed under study. This work is to be extended to include a variety of sites. Qualified appraisal of the results requires that the treatment be repeated for a number of years.

The description and classification of the lodgepole pine habitat types in the east slopes of the Rocky Mountains was completed. A report is being prepared to bring together the results of the lodgepole pine study with those of the sub-alpine spruce forests, the study of which was completed in 1960. This will provide a classification of forest and land units within the sub-alpine region that may be used for research and operational planning in regeneration, silviculture, forest yield and watershed management. An operational site grouping for the Kananaskis Forest Experiment Station and the Marmot Creek drainage is now in progress.



A substantial amount of plant material from the east slopes of the Rocky Mountains was collected, identified and incorporated with the herbarium at Calgary. A report on plant distribution in the Rocky Mountains of Alberta was completed and is in press.

Natural stand development in the spruce-fir forest of the sub-alpine region was studied to determine those phases of stand structure which are conducive to regeneration and which may be helpful in developing regeneration methods. Basic information on soil types, tree root and crown development, and tree distribution is being sought, as well as empirical information on growth and yield.

WATERSHED RESEARCH	Progress in initiating this co-operative research project was made during the year under review.
-----------------------	--

The Steering Committee met in Ottawa on May 3, 1961, and approved, in principle, a program of research proposed by the Technical Advisory Committee. Dr. J.D.B. Harrison, Deputy Minister, Department of Forestry, resigned as Chairman of the Steering Committee during the year and Dr. D.R. Redmond, Director, Forest Research Branch, Department of Forestry, was elected his successor.

The Technical Advisory Committee met three times in Calgary during the year and approved Marmot basin as a research area. A research program was developed involving the various co-operating federal and provincial agencies.

The work done was primarily of a preparatory nature and included:

- (a) Perusal of literature by the various agencies concerned and preparation of reading lists by the Department of Forestry (Calgary Branch) and the Eastern Rockies Forest Conservation Board.
- (b) Land classification study on the Northwest Branch of the Oldman River by the Department of Forestry (forest ecology), Federal Agriculture Research Station (range and soils), and the Research Council of Alberta (geology). A report will be prepared during the winter of 1962-63.
- (c) Timber cruise and volume estimate on Marmot basin (Alberta Forest Service and Eastern Rockies Forest Conservation Board).





- (d) A groundwater study with suggestions as to location of stream gauges and study wells (Research Council of Alberta).
- (e) Climatic stations were selected in Marmot basin, (Department of Transport).
- (f) Stream gauging stations were selected and a temporary exploratory gauge installed (Federal Water Resources Branch).
- (g) Bridge and road access to Marmot basin begun by the Alberta Forest Service and the Eastern Rockies Forest Conservation Board.
- (h) Arrangements were made for the installation of line power to the gauging stations.
- (i) Vegetational survey of Dry Coulee basin (Eastern Rockies Forest Conservation Board).
- (j) A problem analysis for watershed research (Department of Forestry).

On the instructions of the Technical Advisory Committee two technical reports were prepared by Prairie Farm Rehabilitation Administration for the guidance of the committee; one on a weather observation network and the other on a hydrometric network for the eastern slopes of the Rockies.

A proposal to establish single-agency control with other agencies co-operating was considered but discarded and a firm decision reached that the watershed research program would continue with a multiple-agency group.

At the end of the year reported herein, the name "Technical Advisory Committee" was changed to "Technical Co-ordinating Committee" and its major function became one of directing and co-ordinating the watershed research program. It was also arranged that the forester assigned to the watershed research program by the Department of Forestry (Calgary Branch), be appointed as co-ordinator. His duties are to plan short and long-range programs for the Technical Co-ordinating Committee; to co-ordinate planning, work in the field and to collate and interpret results.



The Chief Forester of the Board is Chairman of the Technical Co-ordinating Committee and one Board forester is assigned primarily to watershed research. They assist in co-ordinating the program and also give some direct assistance to other co-operating agencies.

Plans are now laid to perform some applied research such as testing or demonstrating principles established by more fundamental research. This is to provide the link between watershed research and management.

The Board is most appreciative of the assistance extended by the various Federal and Provincial Agencies who are co-operating in the watershed research program.

\*\*\*\*\*





## RANGE MANAGEMENT

Increased demand for summer grazing resulted in the use of several range allotments which were formerly vacant. Total actual use in animal months in the Forest Reserve increased about 4 per cent.

Range conditions remained generally good in spite of the prolonged drought period during July and August.

The degree of utilization was higher than normally desired during the first part of the season but nearly all range made satisfactory growth in the summer.

Co-operation between permittees and forestry personnel was excellent during the 1961 season. The basic principles of range management, standards of condition and multiple-use policy established by the Alberta Forest Service are now generally accepted by those grazing livestock in the Reserve. Corrective action was taken in several allotments where overgrazed range was not improving at an acceptable rate. Preference reductions were made in several instances and improved management practices introduced in others.

The P.F.R.A. continued the installation of watering troughs and dugouts. The total of such projects completed is now 59.

Other improvements consisted of Texas gates, drift fences and boundary fences.

A total of 18 range allotments were resurveyed and remapped during the summer, most of this being in the Porcupine district of the Crowsnest Forest. At the present rate, each allotment will be resurveyed every five years. A new range management plan was written for each allotment resurveyed. The plan contained estimates of carrying capacity, recommendations for proper use, assessment of range condition and certain minimum requirements to which the users must adhere. Taken into account are other factors such as recreation, use of big game animals, etc.

\*\*\*\*\*



## FOREST PROTECTION

### FOREST FIRE PROTECTION

The fire danger was high during the spring period in the Crowsnest and Clearwater Forests. Snow and rain kept the spring hazard low in the Bow

River Forest.

The Crowsnest Forest experienced normal precipitation during the summer months and no prolonged period of high fire hazard. In the Bow River Forest the early part of the summer started with a lack of precipitation and the fire hazard remained in the moderate to extreme range. The month of July brought rains and innumerable lightning storms, but sufficient moisture fell to quell the majority of the lightning strikes. The Clearwater Forest experienced dry electrical storms starting in the latter part of May. June was abnormally dry with almost continuous afternoon dry thunderstorms. These storms continued through June and part of July; however, during the latter part of July the storms produced an above average amount of moisture over most of the area.

Fall was cool in most areas and the fire hazard remained in the low to moderate brackets until freeze-up.

### FOREST FIRES

A total of 61 fires were recorded in the Rocky Mountains Forest Reserve during the year.

The following tables show the fire statistics by forest areas, sizes and causes:

	Number	Area Burned
Clearwater Forest	35	204 acres
Bow River Forest	12	15.25 "
Crowsnest Forest	14	1.8 "
TOTALS	61	221.05 acres





Fires by Causes

Cause	Total Fires	Per Cent
Lightning	34	55.8
Campers	11	18.0
Smokers	6	9.8
Industrial	5	8.2
Public Projects	3	4.9
Unclassified	2	3.3
TOTALS	61	100.0

Fires By Size Classification

Class "A"	(1/4 acre or less)	43
Class "B"	(over 1/4 acre to 10 acres)	14
Class "C"	(over 10 acres to 100 acres)	3
Class "D"	(over 100 acres to 500 acres)	1
TOTAL		61

In addition to the foregoing the forest reserve staff and equipment extinguished five fires which occurred adjacent to the Reserve, which burned over a total of 1.75 acres.

**DETECTION**      The detection system was increased with the establishment of new lookouts in the Reserve area. The sites for all new towers and lookouts are surveyed by aircraft. Photographs are taken from each site before the lookout is erected. These panoramic photographs are evaluated and visible area maps made of each site prior to approval for construction.

**AIRCRAFT**      Aircraft patrol routes have been set up and these



routes cover the northern portion of the Bow River and the Clearwater Forests. Aircraft was responsible for the discovery of eight fires in the Clearwater Forest during the year.

In order for the Clearwater Forest to be included in the aerial fire suppression plan new airstrips are being constructed and some of the present strips are being improved. These strips will increase the use of aircraft in the Clearwater Forest and will enable the forest service to take faster action on inaccessible fires.

BIOLOGICAL  
PROTECTION

A sustained program of detection surveys and damage appraisals was carried out by the survey staff of the Department of Forestry, Forest Entomology and Pathology Laboratory (Calgary) during the year. In addition, considerable research was carried out on known problems in the area, notably the dwarf mistletoe disease, Atropellis canker disease, and stem rust diseases. There were no significant changes for the worse in the general pest conditions of the area, although there were several noteworthy changes in populations of individual forest pests. The area experienced above normal temperatures during the summer, but about normal precipitation. Physiological damage to trees was therefore less than in the previous year.

A composite report on forest insect and disease conditions in the Conservation Area prepared by the Department of Forestry, Forest Entomology and Pathology Laboratory (Calgary) is appended hereto. (Appendix "B")

\*\*\*\*\*





## UTILIZATION OF RESOURCES

### FOREST PRODUCTION

Twenty-four timber berths were sold during the fiscal year 1961 -62 with a total volume of 112,520,300 feet board measure and

50,672,000 lineal feet distributed by species as follows:

White Spruce	91,437,000 f.b.m.
Pine	15,995,300 f.b.m.
	50,672,000 lineal feet
Balsam Fir	5,088,000 f.b.m.

The depressed market for forest products resulted in lumber production being 10.73% less than 1960-61 or 28.82% down from 1959-60. The cutting of round timbers shows a decrease of 69.26% as compared to 1960-61. Demand for fire-killed pulpwood was negligible.

There were 90 timber berths and eight special permits active during the year.

### Production of Lumber and Related Products

	<u>1960-61</u>	<u>1961-62</u>
Lumber and ties (million f.b.m.)	46.67	41.93
Round timber, green and dry (million lin. ft.)	2.31	0.71
Pulpwood (cords)	6,520	1,905
Christmas trees	15,769	-



# GRAZING

The number of domestic animals grazed under permit on the Rocky Mountains Forest Reserve increased by

1,136 over the previous year with a resultant increase in revenue of \$3,299.00.

	Crowsnest Forest		Bow River Forest	
	<u>1960</u>	<u>1961</u>	<u>1960</u>	<u>1961</u>
Cattle	13,695	14,096	7,871	8,496
Horses	35	-	397	378
Sheep	<u>812</u>	<u>1,039</u>	<u>-</u>	<u>-</u>
Total Animals	<u>14,542</u>	<u>15,135</u>	<u>8,268</u>	<u>8,874</u>
* Animal Unit Months	48,335	47,278	30,085	33,719
Revenue	\$40,573.25	\$34,432.51	\$23,280.05	\$23,963.40
Number of Permits	188	184	79	87

	Clearwater Forest		Total Rocky Mountains Forest Reserve	
	<u>1960</u>	<u>1961</u>	<u>1960</u>	<u>1961</u>
Cattle	519	605	22,085	23,197
Horses	363	214	795	592
Sheep	<u>-</u>	<u>-</u>	<u>812</u>	<u>1,039</u>
Total Animals	<u>882</u>	<u>819</u>	<u>23,692</u>	<u>24,828</u>
* Animal Unit Months	3,232	3,954	81,652	84,951
Revenue	\$1,756.58	\$2,334.34	\$65,609.88	\$60,730.25
Number of Permits	31	33	298	304

\*Animal Unit Months - Where an animal unit is the equivalent of a 100-pound cow and sucking calf at foot.





## NATURAL GAS AND MINERAL DEVELOPMENT

Fifteen companies, an increase of one over the previous year, were active in a total of 23 geophysical programs.

Eleven hundred and seven miles of line were used in geophysical work carried out in the Forest Reserve during 1961-62 with 71% done on existing lines. Operators were required not to obstruct drainage or construct lines in such a way that erosion might occur. Erosion prevention measures, such as cross-ditching, have been required on many lines.

Out of 14 wells drilled during the year, six were successfully completed as gas wells. Four of these were in the Waterton field, one on Savanna Creek and one near the Little Red Deer River. Two wells were drilling at the end of the period.

Saratoga Gas Processing pipe line from the Savanna Creek gas field to the processing plant at Coleman was completed. This was a difficult project through rugged terrain, starting at the highest gas well in Canada, on Plateau Mountain.

The Alberta Gas Trunk main 36-inch pipe line through the Porcupine Hills and west to the Crowsnest Pass was also completed.

## COAL DEVELOPMENT

The influence of coal mining activities on watershed is being watched carefully.

Accurate production figures by Coleman Collieries from their strip mine on Tent Mountain and the underground mine at Vicary Creek are not available.

Note: Coal production figures for Alberta will be published by the Mines Division, Department of Mines and Minerals (Alberta) in their Annual Report.

\*\*\*\*\*



## RECREATION

### GENERAL TRAVEL

A total of 79,045 vehicles carrying 245,965 passengers registered in the three Forests during the fiscal year under review. This is a decrease of 2,417 vehicles and 2,446 persons as compared with the 1960-61 season. The number of persons per vehicle averaged 3.1.

A comparison of annual travel figures for the past six years is shown in the following summary:

<u>Year</u>	<u>Forest Users</u>	<u>% Increase or Decrease</u>
1956-57	138,006	-
1957-58	185,914	34.7 +
1958-59	189,654	2.0 +
1959-60	207,368	9.3 +
1960-61	247,411	19.3 +
1961-62	244,965	1.0 -

Travel figures for the fiscal year 1961-62 by forests, as compared with the previous year are shown hereunder:

### Registered Travellers by Forests

	<u>1960-61</u>	<u>1961-62</u>	<u>Increase or Decrease</u>	<u>% Increase or Decrease</u>
Crowsnest Forest	55,488	57,623	2,135 +	3.9 +
Bow River Forest	146,199	150,163	3,964 +	2.7 +
Clearwater Forest	45,724	37,179	8,545 -	18.7 -
	<u>247,411</u>	<u>244,965</u>	<u>2,446 -</u>	<u>1.0 -</u>

The serious fire danger experienced throughout the Province during the early part of the summer of 1961 was, to some extent, responsible for the decline in public travel in the Clearwater Forest, which was closed to travel for a period in June. The recorded decline was also due, in part, to the new David Thompson Highway by-passing the ranger station, and as a result many vehicles entered the Forest Reserve at this point without registering. This situation will be corrected by placing new registration booths at entry points to the Reserve from this Highway.





A small increase was recorded in the number of vehicles registering in the Crowsnest and Bow River Forests.

The number of forest users classified as to purpose of travel is shown hereunder:

	Number	Per Cent
Sightseeing and Picnicking	118,351	48.4
Fishing	53,054	21.6
Hunting	52,201	21.3
Commercial	21,359	8.7
	<u>244,965</u>	<u>100.0</u>

Frequency of travel by months varied little from previous years with travel being heavy during the months of June through September.

Campgrounds throughout the Forest Reserve have been improved and, as travel warrants, enlarged upon.

Co-operation by the public from the standpoint of fire protection was noticeably good and few complaints regarding closures were received. This speaks well for the public education program which has been carried on over the past few years by the Alberta Forest Service, particularly to school-age children.

During the past few years a considerable number of applications have been received by the administration for the establishment of commercial-recreational facilities in the Conservation Area, particularly for motels, service stations and ski lodges. Some have been denied, others approved, and some deferred pending further developments.

\*\*\*\*\*



## NEW CONSTRUCTION

**ROADS** New construction of roads continued during the year under review on a sharable basis with the Federal Government. A total of 764 acres of right-of-way were cleared and 47.6 miles of new grade were constructed. The total cost of road work for the year was \$332,740.43.

**BRIDGES** A steel bridge, 93 feet long, was dismantled and moved from Cadomin to the James River site near the James River Ranger Station. It was re-assembled on pressure-treated pile abutments.

The old Lusk Creek Bridge on the Forestry Trunk Road in the Bow River Forest was replaced by a multiplate culvert eight feet in diameter.

A new 120-foot, 15-ton capacity bridge was constructed during the year on the Marmot Road across the Kananaskis River. The new bridge replaces an old log structure which had fallen into decay.

Two replacement bridges, 20 feet in length, were constructed of pre-cast concrete over Logan Creek and Bear Creek on the Red Deer Road.

**AIRSTRIPS** A preliminary survey was made for a 4,200-foot airstrip near the Shunda Ranger Station in the Clearwater Forest.

**BUILDINGS** The new Blackstone Lookout in the Clearwater Forest was completed during the year under review. It consists of a three-room cabin with a plexiglass cupola inserted in the roof.

A combined two-stall garage and equipment storehouse was completed at the Elbow Ranger Station.

**CAMPSHELTERS** Three new campshelters were started towards the end of the fiscal year. They are located at the Sandy McNab campground, Bow River Forest; Brazeau campground, Clearwater Forest and Chinook campground in the Crowsnest Forest.

\*\*\*\*\*





## MAINTENANCE

### ROADS

The Forestry Trunk Road, from Coleman to the north boundary of the Conservation Area, some 42 miles north of the Town of Nordegg, together with access roads, were maintained regularly by six large graders operated by the forestry road maintenance crew. Approximately 600 miles of road in the Area was graded and repaired where necessary.

Seventy-one miles of Forestry Trunk Road were completely reditched, reshaped and gravelled.

### BUILDINGS

Planned maintenance was carried out on buildings at the 19 ranger stations in the Rocky Mountains Forest Reserve. Six coal and wood furnaces were converted to propane.

\*\*\*\*\*



## FINANCIAL

### ACCOUNTING

The accounting system adopted by the Board remained substantially the same as in previous years.

An appropriation amounting to \$54,800.00 was provided by the Province of Alberta to meet the Board's administrative requirements comprising salaries and wages of Board personnel, travelling expenses, stationery and supplies and miscellaneous expenses.

An accountable advance of \$5,000.00 is provided by the Province from which to defray the foregoing expenses. This account is reimbursed monthly by the Province on the basis of an audited statement of expenditure.

Disbursements by the Board totalled \$45,337.92 as detailed hereunder:

Salaries and Wages	\$ 37,016.22
Fees and Commissions	1,000.00
Travelling Expenses	2,842.63
Printing Stationery and Office Supplies	793.17
Telegrams and Telephones	178.76
Postage	125.00
Construction Materials and Supplies (Watershed Research)	2,716.00
Miscellaneous Expenses	666.14
	<hr/>
	\$ 45,337.92
	<hr/>

### BANKING

A current account is maintained with the Royal Bank of Canada, Calgary, Alberta, from which the Board disburses its administrative expenses. Signing authority is vested in the Secretary and the Chief Forester, with one member of the Board having alternate authority.

### WORKMEN'S COMPENSATION

The Board's deposit of \$5,000.00 with the Alberta Workmen's Compensation Board earned interest amounting to \$211.78 less administrative expense and reserve for rehabilitation and enhanced disabilities of \$44.00, leaving a net credit to Proprietary Equity Account of \$167.78.





No claims for injuries were incurred by Board personnel (non-civil servants) during the year under review.

EXPENDITURE, MAINTENANCE AND ADMINISTRATION      Expenditure for the maintenance and administration of the Conservation Area, including expenses of the Board, provided by the Province of Alberta in accordance with Section 2 (a) (11) of the Memorandum of Agreement between the Government of Canada and the Government of the Province of Alberta, totalled \$ 1,003,391.05 for the fiscal year ended March 31, 1962. This is an increase of \$ 137,470.28 over the preceding year.

The accompanying certified Statement of Assets and Liabilities, together with subsidiary schedules, reflects in detail the financial operations of the Board and the Province with respect to the maintenance and administration of the Conservation Area. (Appendix "C")

REVENUE      Revenue from surface rights derived by the Alberta Department of Lands and Forests from the Conservation Area amounted to \$ 413,956.58 for the year under review as compared with \$ 447,373.94 for the previous year, a decrease of \$ 33,417.36, principally due to the depressed timber market.

Details of revenues are as follows:

	<u>1960-61</u>	<u>1961-62</u>
Grazing Permits, Taxes and		
Revenue Permits	\$ 65,957.40	\$ 61,129.11
Hay Permits, Fees, Dues. Etc.	17.50	2.25
Miscellaneous Leases	1,232.47	2,261.79
"      Revenue	1,267.17	1,151.44
Timber Permits	10,168.65	8,425.42
Special Timber Permits	9,313.69	2,746.65
Timber Fees, Rent, Etc.	19,440.50	21,200.79
Timber Dues	330,833.66	307,547.79
Administrative Sundry		
Revenue	8,330.50	8,735.00
Previous Year Refunds (Income)	-	-
Timber Miscellaneous Revenue	-	59.07
Right-of-Entry	812.40	697.27
	<u>\$ 447,373.94</u>	<u>\$413,956.58</u>



## ROAD TOLLS

There were no additions to the road toll fund during the fiscal year under review. Revenue obtained from this source, which was originally established at the request of the Board, was carried in a Special Trust Fund set up by the Provincial Treasurer as authorized under the Forest Reserves Act to be used as required for the construction of new roads or for the maintenance of existing roads within the Conservation Area.

Over the past ten years a total of \$48,062.00 has been collected by the Province from road tolls on a basis of one cent per ton mile against commercial users. The yearly average was about \$4,800.00. The largest revenue source in the past three years has been Coleman Collieries on their coal haul from Vicary Creek.

Road tolls were discontinued when the Department of Highways took over the maintenance of the road used by Coleman Collieries. In lieu thereof, the Province provided additional funds for maintenance.

## ESTIMATES FISCAL YEAR 1962-63

Estimates for the administration, management and protection of the Rocky Mountains Forest Reserve for the fiscal year 1962-63 were approved by the Legislature of the Province of Alberta under appropriation No. 1817 totalling \$981,880.00, as compared with \$974,560.00 for the fiscal year 1961-62, an increase of \$7,320.00.

In addition to the foregoing a sum of \$54,350.00 was provided for the administration of the Eastern Rockies Forest Conservation Board under appropriation No. 1819 as compared with \$54,800.00 for the fiscal year 1961-62, a decrease of \$450.00.

\*\*\*\*\*





Fiscal Year 1961 - 62

Permanent Staff	Rocky Mtns. Forest Reserve		Crownest Forest		Bow River Forest		Clearwater Forest		TOTALS
	Calgary Office		Forest		Forest		Forest		
Forest Superintendents	-		1		1		1		3
Assistant Superintendents	-		1		1		1		3
Foresters	1*		1		1		1		4
Chief Rangers	-		1		1		1		3
District Rangers	-		6		7		5		18
Assistant Rangers	-		4		9		5		18
Chief Clerk	1		-		-		-		1
Clerks - Stenographers	1		2		3		4		10
Maintenance Foreman - Buildings	1		-		-		-		1
" " - Mechanical	1		-		-		-		1
" " - Roads	1		-		-		-		1
Tractor-Grader Operator Mechanics	2		1		1		1		5
Garage Mechanic	1		-		-		-		1
Maintenance Man - Signs	-		1		-		-		1
Warehouseman	-		-		1		-		1
Truck Driver	1		-		-		-		1
Lookoutmen - Permanent	-		1		1		1		3
<hr/>									
Lookoutmen - Seasonal	10		19		26		20		75
	-		5		8		5		18
<hr/>									
	10		24		34		25		93

\* Forester in charge of grazing.



DEPARTMENT OF FORESTRY

Forest Entomology and Pathology Branch  
Report on Forest Insect and Disease Conditions  
in the  
Eastern Rockies Forest Conservation Area  
1961-62

INSECTS

Spruce budworm - Choristoneura fumiferana (Clem.)

Damage from this insect was considerably less than in 1960, with very little current damage in the high infestation areas reported in past years.

Forest tent caterpillar - Malacosoma disstria (Hbn.)

Generally increased defoliation of aspen by this insect was experienced in 1961, but only along the eastern boundaries of the Conservation Area. Nowhere in the area did the damage approximate the serious defoliation experienced in the northern and eastern parts of the Province.

American aspen beetle - Gonioctena americana (Schaeff.)

The most serious defoliation of aspen was caused by the American aspen beetle. Total defoliation was experienced in pockets generally throughout the foothills region, with the heaviest populations being present in the Highwood and Sheep ranger districts.

Willow leaf beetle - Chrysomela aenicollis (Schaeff.)

A marked increase in the population of this insect caused heavy damage to willow in the Highwood ranger district. The damage was considerably less at lower elevations.

Spruce gall aphid - Adelges cooleyi (Gill.)

Populations of this insect were not as high as in 1960 but remained higher than the long-term level. The damage to white and engelmann spruces was heaviest in the south and decreased fairly regularly to the north. Heavy infestations were present on the foliage of its alternate host, Douglas fir, in the Highwood and Kananaskis districts.





Poplar and willow borer - Sternochetus lapathi (L).

This insect appears to be new to Alberta. The infested area extended for eight miles along Ptolemy Creek near Coleman. Willows up to four inches in diameter were heavily infested and some were dead.

Larch sawfly - Pristiphora erichsonii (Htg.)

This insect was general in the Clearwater and Bow River Forests, with almost all larch stands affected. Light to moderate defoliation was experienced in most areas, but nowhere was the damage as extensive as in other parts of the Province.

\*\*\*\*\*



## DISEASES

Lodgepole pine stem canker - Atropellis piniphila (Weir)  
Lohman & Cash

No new concentrations of this disease were noted during the year. Work in 1961 was confined to damage appraisals of previously reported outbreaks and to studies on intensification and spread. This work is still in progress, but indications are that long-distance spread by spores is followed by local intensification of the disease through two or more generations of trees.

Dwarf mistletoe of pine - Arceuthobium americanum  
Nutt. ex Engelm

Growth reduction and mortality from this disease on lodgepole pine reaches serious proportions in many parts of the Conservation Area. Research is being directed towards a practical control of the disease. Fungus parasites of the dwarf mistletoe plant were abundant in vicinity of Dutch Creek, and generally throughout the Kananaskis district. Similar heavy damage to dwarf mistletoe seeds was last reported in 1953 from the Kananaskis district.

Douglas fir needle cast - Rhabdocline pseudotsugae Syd.

This disease was present in outbreak proportions in the Porcupine Hills in 1961. It was less common in other parts of the Conservation Area. It is most serious on trees up to 20 feet in height. Repeated defoliations predispose seedlings to death from root diseases and drought.

Spruce cone rust - Chrysomyxa pirolata Wint.

This disease was widespread in 1961, and reached epidemic levels at Bragg Creek where up to 80 per cent of the cones were destroyed. Elsewhere in the Conservation Area occasional pockets of heavy infection occurred, such as in the Ghost Ranger District.

Winter injury

The red belt form of this disease was conspicuous in the Bow River Forest and in the southern half of the Clearwater Forest. Permanent damage of any consequence is unlikely.





GOVERNMENT OF THE PROVINCE OF ALBERTA  
OFFICE OF THE PROVINCIAL AUDITOR

EDMONTON,

July 9, 1962

Eastern Rockies Forest Conservation Board  
CALGARY, Alberta

I have audited the books and records of the Eastern Rockies Forest Conservation Board maintained by the Department of Lands and Forests, Government of the Province of Alberta, for the year ended March 31, 1962 and submit the following statements herewith:

<u>Statement</u>	<u>Particulars</u>
A.	Balance Sheet
B.	Statement of Maintenance Expenditure
C.	Statement of Government of Canada and Government of Province of Alberta Equity

Total capital expenditures from inception to March 31, 1955 amounting to \$6,278,906.10 were made from funds provided by the Government of Canada (as authorized under Section 8 (a) of the Memorandum of Agreement), for the location and construction of forest improvements, the making of a forest inventory, reforestation, and such other works and services as the Board considered necessary in that area of the East Slope of the Rocky Mountains forming part of the watershed of the Saskatchewan River, as more definitely described in the Appendix to the Act. The total expenditure was not to exceed \$6,300,000.00 during the seven years ended March 31, 1955.

I certify that, in my opinion, the attached Balance Sheet is properly drawn up so as to show the true financial position of the Eastern Rockies Forest Conservation Board as at March 31, 1962 according to the information and explanations given to me and as shown by the records of the Board and the accompanying statements correctly set forth the result of transactions for the year ended at that date.

*C. H. Kinkaid* A.  
Provincial Auditor.



Statement A

EASTERN ROCKIES FOREST CONSERVATION BOARD  
BALANCE SHEET AS AT MARCH 31, 1962

ASSETS

Workmen's Compensation Board deposit	\$ 5,167.78
Value of loose tools and equipment transferred to the Province of Alberta as at April 1, 1959	173,496.38
Capital improvements and works	5,716,615.20
	<hr/>
	\$ 5,895,279.36
	<hr/>

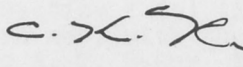
LIABILITIES

Government of Canada and Government of the Province of Alberta, equity as per Statement C	\$ 5,895,279.36
	<hr/>

Note: Section 20 of the Memorandum of Agreement set forth in the Schedules to Chapter 59, Statutes of Canada, 1947 and Chapter 20, Statutes of Alberta, 1948 and Amendment Acts; 1957 provides that upon termination of the Agreement:

- (a) All improvements or works resulting from the carrying out of the programs of the Board shall belong to the Province.
- (b) All other property acquired by the Board shall belong to the Province.

This is the Balance Sheet referred to in my report of July 9, 1962, addressed to the Eastern Rockies Forest Conservation Board.

 F. C. A.  
Provincial Auditor.





Statement B

EASTERN ROCKIES FOREST CONSERVATION BOARD

STATEMENT OF MAINTENANCE EXPENDITURE

FOR THE YEAR ENDED MARCH 31, 1962

Maintenance expenses:

Salaries	\$ 401,740.51	
Maintenance, material and operation expense	119,658.42	
Wages	117,693.81	
Equipment and motor vehicle expense	77,248.16	
Rentals	48,271.25	
Travelling	38,097.98	
Administration and general expense	26,316.68	
Heat, light and power	9,390.99	
Freight, express and cartage	2,240.42	
Telegrams and telephones	1,874.71	
Honorarium	1,000.00	
Postage	881.25	
Miscellaneous supplies and expense	<u>20.70</u>	
		\$ 844,434.88
Motor vehicles and heavy equipment		137,512.47
Furnishings, equipment and tools		<u>21,443.70</u>

\$ 1,003,391.05

Provided by:

Appropriations 1817 and 1819	\$ 1,003,391.05
------------------------------	-----------------

Note: The total amount expended by the Board was provided by the Government of the Province of Alberta in accordance with Section 2 (a) (ii) of the Memorandum of Agreement, dated June 17, 1953 between the Government of Canada and the Government of the Province of Alberta as set forth in the Schedules to Chapter 41, Statutes of Canada, 1952 and Chapter 36, Statutes of Alberta, 1953.

The remuneration and expenses of members of the Board were paid by the Governments of Canada and the Province of Alberta in accordance with Section 2 (b) (iii) of the Memorandum of Agreement and are not, with the exception of the honorarium of \$1,000.00 to A. T. Baker, included in the above statements.



Statement C

EASTERN ROCKIES FOREST CONSERVATION BOARD  
STATEMENT OF GOVERNMENT OF CANADA AND GOVERNMENT  
OF PROVINCE OF ALBERTA EQUITY  
FOR THE YEAR ENDED MARCH 31, 1962

Balance as at April 1, 1961	\$ 5,895,258.07
Add:	
Workmen's Compensation Board deposit interest	167.78
	<hr/>
	\$ 5,895,425.85
Deduct:	
Workmen's Compensation Board interest remitted	146.49
	<hr/>
Government of Canada and Government of Province of Alberta equity as at March 31, 1962	\$ 5,895,279.36
	<hr/> <hr/>





SD 414 C2 E116 1961/1962  
EASTERN ROCKIES FOREST  
CONSERVATION BOARD

ANNUAL REPORT OF THE EASTERN  
SERIAL M1 39721763 SCI



\*000038197737\*

SD

414

C2E116

1961/62

2299457

SCIENCE  
CAMERON LIBRARY



**B2**